Appendix A—Directory of EPA and State Drinking Water Programs

Regional Contacts

Region I

Ms. Ellie Kwong
Groundwater Management and Water Supply Branch
U.S. Environmental Protection Agency Region I
JFK Federal Building
Boston, MA 02203
(617) 565-3620

Region II

Mr. Taj Khan
Drinking Water/Ground Water Protection Branch
U.S. Environmental Protection Agency Region II
26 Federal Plaza, Room 853
New York, NY 10278
(212) 264-1358

Region III

Mr. George Rizzo
Drinking Water/Ground Water Protection Branch
U.S. Environmental Protection Agency Region III
841 Chestnut Street
Philadelphia, PA 19107
(215) 597-0609

Region IV

Mr. Tom DeGaetano
Municipal Facilities Branch
U.S. Environmental Protection Agency Region IV
345 Courtland Street, NE
Atlanta, GA 30365
(404) 347-2913

Region V

Mr. John Delessandro
Technical Support Unit
U.S. Environmental Protection Agency Region V
77 West Jackson
Chicago, IL 60604
(312) 353-4914

Region VI

Mr. Len Pardee
Water Supply Branch
U.S. Environmental Protection Agency Region VI
First Interstate Bank Tower at Fountain Place
1445 Ross Avenue, 12th Floor, Suite 1200
Dallas, TX 75202
(214) 655-8086

Region VII

Ms. Elizabeth Murtagh-Yaw
Drinking Water Branch
U.S. Environmental Protection Agency Region VII
726 Minnesota Avenue
Kansas City, KS 66101
(913) 551-7440

Region VIII

Ms. Marty Swickard
PWSP Section - 8WM-DW
Drinking Water Branch
U.S. Environmental Protection Agency Region VIII
999 18th Street, Suite 500
Denver, CO 80202
(303) 293-1629

Region IX

Ms. Cheryl Gustafson
Public Water Supply Section
U.S. Environmental Protection Agency Region IX
75 Hawthorne Street
San Francisco, CA 94105
(415) 744-1828

Region X

Ms. Wendy Marshall
Lead Contact WD-132
Ground Water and Drinking Water Branch
U.S. Environmental Protection Agency Region X
1200 Sixth Avenue
Seattle, WA 98101
(206) 553-1890

State LCCA Contacts

EPA REGION I

Connecticut

Mr. Bob Rivard, Supervising Sanitary Engineer
Water Supply Section
Connecticut Department of Health Services
150 Washington Street
Hartford, CT 06106
(203) 566-1253

Maine

Mr. Peter Moulton, Drinking Water Manager
Drinking Water Program
Maine Division of Health
State Station 10
Augusta, ME 04333
(207) 287-2070

Massachusetts

Mr. Chuck Larson, Environmental Engineer
Division of Water Supply
Massachusetts Department of Environmental Protection
One Winter Street
Boston, MA 02108
(617) 292-5857

New Hampshire

Mr. Richard Thayer, Sanitary Engineer
New Hampshire Department of Environmental Services
P.O. Box 95
6 Haven Drive
Concord, NH 03301
(603) 271-3139

Rhode Island

Ms. Donna Pytell, Sanitary Engineer
Division of Drinking Water Quality
Rhode Island Department of Health
3 Capitol Hill
Providence, RI 02908
(401) 277-6867

Vermont

Ms. Jean Nicolai/Benson Sargent
Drinking Water Program
Water Supply Division
Vermont Department of Health
Old Pantry Building
103 South Main Street
Waterbury, VT 05671-0403
(802) 241-3400

EPA REGION II

New Jersey

Mr. Sonny Saroya
Bureau of Safe Drinking Water
Division of Water Resources
New Jersey Department of Environmental Protection
P.O. Box CN-029
Trenton, NJ 08625
(609) 292-5550

New York

Mr. David Mead
New York Department of Health
2 University Plaza/Western Avenue
Room 406
Albany, NY 12203-3399
(518) 458-6706

Puerto Rico

Mrs. Olga I. Rivera, Acting Director
Puerto Rico Department of Health
Edificio A. Centro Medico
Call Box 70184
San Juan, PR 00936
(809) 763-4307

Virgin Islands (St. Thomas)

Mr. Ira Hobson, Supervisor, PWSS Program
Government of the Virgin IslandsDepartment of Planning and Natural Resources
Nisky Center, Suite 231, Nisky 45A
St. Thomas, VI 00802
(809) 774-3320

EPA REGION III

Delaware

Mr. Ed Hallock
Environmental Health Specialist III
Public Water System Supervision Program
Division of Public Health
Delaware Department of Health and Social Services
P.O. Box 637
Dover, DE 19901
(302) 739-5410
[Both Lead and Drinking Water Contact]

District of Columbia

Preventive Health Services
Commission of Public Health
Government of the District of Columbia
1660 L. Street, NW, Suite 815
Washington, DC 20036
(202) 673-6741
[Childhood Lead Poisoning Prevention Contact]

Maryland

Ms. Susan Guyaux
Center for Special Toxics
Lead Poisoning Prevention Program
Maryland Department of the Environment
2500 Broening Highway
Baltimore, MD 21224
(410) 631-3859
[Lead Contact]

Pennsylvania

Mr. Frederick A. Marrocco, Chief
Division of Water Supplies
Pennsylvania Department of Environmental Resources
P.O. Box 2357
Harrisburg, PA 17120
(717) 787-9037
[Both Lead and Drinking Water Contact]

Virginia

Mr. Robert B. Stroube, M.D., M.P.H.
State Health Commissioner
Virginia Department of Health
109 Governor Street
Richmond, VA 23219
(804) 786-3561
[Lead Contact]

West Virginia

Mr. Donald A. Kuntz, P.E. Director
Environmental Engineering Division
Office of Environmental Health Services
West Virginia Department of Health and Human Resources
815 Quarrier Street, Suite 418
Charleston, WV 25301
(304) 558-2981
[Both Lead and Drinking Water Contact]

EPA REGION IV

Alabama

Mr. Joe Alan Power, Director
Public Water Supply Branch
Alabama Department of Environmental Management
1751 Congressman W.L. Dickinson Drive
Montgomery, AL 36109-2698
(205) 271-7773

Florida

Mr. Van Hoofnagle, Administrator
Drinking Water Section
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400
(904) 487-1762

Georgia

Mr. Fred D. Lehman, Manager
Drinking Water Program
Georgia Department of Natural Resources
Floyd Towers East, Suite 1362
205 Butler Street, SE
Atlanta, GA 30334
(404) 651-2750

Kentucky

Mr. John T. Smither, Manager
Drinking Water Branch
Kentucky Natural Resources and
Environmental Protection Cabinet
14 Reilly Road
Frankfort, KY 40601
(502) 564-3410

Mississippi

Mr. David Mitchell, Director
Division of Water Supply
Mississippi State Department of Health
P.O. Box 1700
Jackson, MS 39205
(601) 960-7518

North Carolina

Mr. Wallace Venrick, Chief
Public Water Supply Section
North Carolina Department of Environmental Health
and Natural Resources
Division of Environmental Health
P.O. Box 29536
Raleigh, NC 27626-0536
(919) 733-2321

South Carolina

Mr. Robert E. Malpass, Chief
Bureau of Drinking Water Protection
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201
(803) 733-5310

Tennessee

Mr. David Draughon, Director
Division of Water Supply
Tennessee Department of Environment and Conservation
401 Church Street
Sixth Floor, L & C Tower
Nashville, TN 37219-5404
(615) 532-0191

EPA REGION V

Illinois

Mr. Dean Thady
State Plumbing Consultant
Office of Health Protection
Illinois Department of Public Health
525 West Jefferson Street
Springfield, IL 62761
(217) 524-0799
[For questions on plumbing]

Mr. G. Michael Brant
Office of Health Protection
Division of Environmental Health
Illinois Department of Public Health
525 West Jefferson Street
Springfield, IL 62761
(217) 524-5830
[For questions on fountains in schools]

Indiana

Mr. Wayne Brattain
Drinking Water Branch
Indiana Department of Environmental Management
P.O. Box 6015
Indianapolis, IN 46206-6015
(317) 233-4179

Michigan

Division of Water Supply
Michigan Department of Public Health
3423 North Logan/Martin L. King Jr. Boulevard
P.O. Box 30195
Lansing, MI 48909
(517) 335-9215

Minnesota

Ms. Lih-In Rezania
Drinking Water Protection Section
Division of Environmental Health
Minnesota Department of Health
925 Delaware Street, SE
P.O. Box 59040
Minneapolis, MN 55459-0040
(612) 627-5488

Ohio

Mr. Dan Chatfield
Ohio Department of Health
246 North High Street
P.O. Box 118
Columbus, OH 43266-0118
(614) 466-1450

Wisconsin

Ms. Cindy Diedrich
Public Water Supply Section
Bureau of Water Supply
Wisconsin Department of Natural Resources
101 South Webster Street
P.O. Box 7921
Madison, WI 53707
(608) 267-2451

EPA REGION VI

Arkansas

Engineering Division
Arkansas Department of Health
4815 West Markham
Little Rock, AR 72203-3867
(501) 661-2623

Louisiana

Louisiana Department of Health and Hospitals
Office of Public Health
P.O. Box 60630, Room 403
New Orleans, LA 70160
(504) 568-5100

New Mexico

New Mexico Environmental Department
1190 St. Francis Drive
P.O. Box 26110
Santa Fe, NM 87502
(505) 827-7536

Oklahoma

Oklahoma Department of Environmental Quality
Water Quality Service-0207
1000 NE 10th Street
P.O. Box 53551
Oklahoma City, OK 73117-1212
(405) 271-5205 x148

Texas

Texas National Resource Conservation Commission
P.O. Box 13087
Austin, TX 78711-3087
(512) 908-6020

EPA REGION VII

Iowa

Ms. Rita Gergely
Bureau of Health Engineering and Consumer Safety
Division of Disease Prevention
Iowa Department of Public Health
Lucas State Office Building
321 East 12th Street
Des Moines, IA 50319-0075
(512) 242-6340

Kansas

Contact school system for information

Missouri

Mr. Mike Carter
Bureau of Environmental Epidemiology
Missouri Department of Health
P.O. Box 570
Jefferson City, MO 65102
(314) 751-6102 or 1-800-392-7245

Nebraska

Mr. Jack Daniel, Director
Division of Drinking Water and Environmental Sanitation
Nebraska Department of Health
301 Centennial Mall South
P.O. Box 95007
Lincoln, NE 68509
(402) 471-2541

EPA REGION VIII

Colorado

Ms. Michelle Bolyard
Drinking Water Section
Water Quality Control Division
Colorado Department of Health
4300 Cherry Creek Dr. South
Denver, CO 80222
(303) 692-3539

Montana

Mr. Terry Campbell
Drinking Water Section, Water Quality Bureau
Montana Department of Health and Environmental Sciences
Cogswell Building
Helena, MT 59620
(406) 444-5256

North Dakota

Mr. Sherwin Wanner
North Dakota State Department of Health
and Consolidated Laboratories
Municipal Facilities Division
1200 Missouri Avenue, Box 5520
Bismarck, ND 58502-5520
(701) 221-5210

South Dakota

Mr. Michael Getty
South Dakota Department of Environmental
and Natural Resources
Office of Drinking Water
Joe Foss Building
Pierre, SD 57501-3181
(605) 773-3754

Utah

Ms. Patti Fauver
Utah Department of Environmental Quality
Division of Drinking Water
P.O. Box 144830
Salt Lake City, UT 84114-4830
(801) 538-6159

Wyoming

Ms. Maureen Doughtie
United States Environmental Protection Agency Region 8
PWSIE Section
999 18th Street, Suite 500
Denver, CO 80202
(303) 293-1629

EPA REGION IX

Arizona

Mr. Michael Kleminski
Compliance Officer
Drinking Water Compliance Unit
Arizona Office of Water Quality
3033 North Central Avenue
Phoenix, AZ 85012
(602) 207-4641

California

Technical Programs Branch
California Department of Health Services
Division of Drinking Water
2151 Berkeley Way, Room 113
Berkeley, CA 94704
(510) 540-2154

Hawaii

Hawaii Department of Health
Five Waterfront Plaza, Suite 250
500 Ala Moana Boulevard
Honolulu, HI 96813
(808) 586-4258

Nevada

Nevada Department of Human Resources
Bureau of Health Protection Services
505 East King Street
Carson City, NV 89710
(702) 687-4750

EPA REGION X

Alaska

Alaska Department of Environmental Conservation
Drinking Water Program Manager
410 Willoughby, Suite 105
Juneau, AK 99801
(907) 465-5300

Idaho

Mr. Eldon Nelson, Support Services Supervisor
Idaho Department of Education
650 West State
Boise, ID 83720
(208) 334-2203

Oregon

Mr. Dave Leland, Supervisor
Drinking Water Section
Oregon Health Division
P.O. Box 14450
Portland, OR 97214-0450
(503) 731-4010

Washington

Washington Department of Health
Division of Drinking Water
P.O. Box 47822
Olympia, WA 98504-7822
(206) 753-9674

Appendix B—Glossary of Terms

Bubbler: A water fountain fixture connected to the water supply. A bubbler does not contain a refrigeration unit. Some bubblers are attached to central chiller units, while others are not.

Chiller: A central refrigeration unit providing cold water to some types of bubblers.

Corrosion: A dissolving and wearing away of metal caused by a chemical reaction (e.g., between water and the piping that the water contacts).

Drinking Water Fountain: A fixture connected to the water supply that provides water as needed. There are four types of drinking water fountains: (1) bubblers without central chillers, (2) bubblers with central chillers, (3) water coolers, and (4) bottled water dispensers.

Faucet ("tap" and "fixture"): The device attached to a water dispensing apparatus (i.e., bubbler, cooler, pipe, etc.) from which the water flows. The term "faucet" is used interchangeably with the terms "tap" and "fixture."

Fittings and Valves: Any of numerous mechanical devices by which the flow of water may be started, stopped, or regulated by a movable part that opens, shuts, or partially obstructs one or more ports of passageway.

Flux: A substance applied during soldering to facilitate the flow of solder. Flux often contains lead and can itself be a source of lead contamination in water. The lead-free requirements of the 1986 Safe Drinking Water Act require that solders and flux not contain more than 0.2 percent lead.

Header: The main pipe in the internal plumbing system of a building. The header supplies water to lateral pipes.

Lateral: A plumbing branch between a fixture or group of fixtures (e.g., taps, water fountains, etc.) and the header.

Loop: A closed circuit of a plumbing branch which supplies water from the riser to a fixture or a group of fixtures.

Potable Water Pipes: The pipes in a distribution system and in a building which carry water intended for human consumption.

Public Water System: Any system that has 15 or more service connections and is in operation at least 60 days per year or any system serving 25 or more persons daily at least 60 days per year.

Riser: The vertical pipe that carries water from one floor to another.

Sediment: Matter from piping or other water conveyance device that settles to the bottom of the water in the apparatus. If lead components are used in plumbing materials, lead sediments may form and result in elevated water lead levels.

Service Connector: The pipe that carries tap water from the public water main to a building. In the past, these were often comprised of lead materials.

Solder: A metallic compound used to seal the joints between pipes. Until recently, most solder contained about 50 percent lead. Lead-free solders often contain one or more of the following metals: antimony, tin, copper or silver. Several alloys are available that melt and flow in a manner similar to lead solder.

Water Cooler: Any mechanical device affixed to drinking water supply plumbing that actively cools water for human consumption. The reservoir can consist of a small tank or a pipe coil.

Appendix C—Water Cooler Summary

The Lead Contamination Control Act (LCCA), which amended the Safe Drinking Water Act, was signed into law on October 31, 1988 (P.L. 100-572). The potential of water coolers to supply lead to drinking water in schools and day care centers was a principle focus of this legislation. Specifically, the LCCA mandated that the Consumer Product Safety Commission (CPSC) order the repair, replacement, or recall and refund of drinking water coolers with lead-lined water tanks. In addition, the LCCA called for a ban on the manufacture or sale in interstate commerce of drinking water coolers that are not lead-free. Civil and criminal penalties were established under the law for violations of this ban. With respect to a water cooler that may come in contact with drinking water, the LCCA defined the term "lead-free" to mean:

> "not more than 8 percent lead, except that no drinking water cooler which contains any solder, flux, or storage tank interior surface which may come in contact with drinking water shall be considered lead free if the solder, flux, or storage tank interior surface contains more than 0.2 percent lead."

Another component of the LCCA was the requirement that EPA publish and make available to the states a list of drinking water coolers, by brand and model, that are not lead-free. In addition, EPA was to publish and make available to the states a separate list of the brand and model of water coolers with a lead-lined tank. EPA is required to revise and republish these lists as new information or analyses become available.

Based on responses to a Congressional survey in the winter of 1988, three major manufacturers, the Halsey Taylor Company, EBCO Manufacturing Corporation, and Sunroc Corporation, indicated that lead solder had been used in at least some models of their drinking water coolers. On April 10, 1988, EPA proposed in the *Federal Register* (at 54 *FR* 14320) lists of drinking water coolers with lead-lined tanks and coolers that are not lead-free. Public comments were received on the notice, and the list was revised and published on January 18, 1990 (Part III, 55 *FR* 1772). *See Table C-1 for a list of water coolers with lead components.*

[1]Based on an analysis of 22 water coolers at a U.S. Navy facility and subsequent data obtained by EPA. EPA believes the most serious cooler contamination problems are associated with water coolers that have lead-lined tanks.

Prior to publication of the January 1990 list, EPA determined that Halsey Taylor was the only manufacturer of water coolers with lead-lined tanks.[1] Table C-2 presents a listing of model numbers of the Halsey Taylor drinking water coolers with lead-lined tanks that had been identified by EPA as of January 18, 1990.

Since the LCCA required the CPSC to order manufacturers of coolers with lead-lined tanks to repair, replace or recall and provide a refund of such coolers, the CPSC negotiated such an agreement with Halsey Taylor through a consent order published on June 1, 1990 (at 55 *FR* 22387). The consent agreement calls on Halsey Taylor to provide a replacement or refund program that addresses all the water coolers listed in Table C-2 as well as "all tank-type models of drinking water coolers manufactured by Halsey Taylor, whether or not those models are included on the present or on a future EPA list." Under the consent order, Halsey Taylor agreed to notify the public of the replacement and refund program for all tank type models.

If you have one of the Halsey Taylor water coolers noted in Table C-2, contact Halsey Taylor *(address and phone noted below)* to learn more about the requirements surrounding their replacement and refund program.

Halsey Taylor
2222 Camden Court
Oak Brook, IL 60520
(708) 574-3500

SPECIAL NOTE:

Experience indicates that newly installed brass plumbing components containing 8 percent or less lead, as allowed by the LCCA and the Lead Ban, can contribute high lead levels to drinking water for a considerable period after installation. U.S. water cooler manufacturers have notified EPA that since September 1993, the components of water coolers that come in contact with drinking water have been made with non-lead alloy materials. These materials include stainless steel for fittings and water control devices, brass made of 60 percent copper and 40 percent zinc, terillium copper, and food grade plastic.

Table C-1
Water Coolers With Other Lead Components

EBCO Manufacturing

- All pressure bubbler water coolers with shipping dates from 1962 through 1977 have a bubbler valve containing lead. The units contain a single, 50-50 tin-lead solder joint on the bubbler valve. Model numbers for coolers in this category are not available.

- The following models of pressure bubbler coolers produced from 1978 through 1981 contain one 50-50 tin-lead solder joint each.

CP3	DP15W	DPM8	7P	13P	DPM8H	DP15M	DP3R	DP8A
DP16M	DP5S	C10E	PX-10	DP7S	DP13SM	DP7M	DP7MH	DP7WD
WTC10	DP13M-60	DP14M	CP10-50	CP5	CP5M	DP15MW	DP3R	DP14S
DP20-50	DP7SM	DP10X	DP13A	DP13A-50	EP10F	DP5M	DP10F	CP3H
CP3-50	DP13M	DP3RH	DP5F	CP3M	EP5F	13PL	DP8AH	DP13S
CP10	DP20	DP12N	DP7WM	DP14A-50/60				

Halsey Taylor

- Lead solder was used in these models of water coolers manufactured between 1978 and the last week of 1987:

WMA-1	SCWT/SCWT-A	SWA-1	DC/DHC-1
S3/5/10D	BFC-4F/7F/4FS/7FS	S300/500/100D	

- The following coolers manufactured for Haws Drinking Faucet Company (Haws) by Halsey Taylor from November 1984 through December 18, 1987 are not lead-free because they contain 2 tin-lead solder joints. The model designations for these units are as follows:

HC8WT	HC14F	HC6W	HWC7D	HC8WTH	HC14FH	HC8W	HC2F	HC14WT
HC14FL	HC14W	HC2FH	HC14WTH	HC8FL	HC4F	HC5F	HC14WL	HCBF7D
HC4FH	HC10F	HC16WT	HCBF7HO	HC8F	HC8FH	HC4W	HWC7	

Table C-2
Halsey Taylor Water Coolers With Lead-Lined Tanks

- The following six model numbers have one or more units in the model series with lead-lined tanks:

WM8A WT8A GC10ACR GC10A GC5A RWM13A

- The following models and serial numbers contain lead-lined tanks:

WM14A Serial No. 843034	WM14A Serial No. 843006	WT11A Serial No. 222650
WT21A Serial No. 64309550	WT21A Serial No. 64309542	LL14A Serial No. 64346908

Appendix D—List of Lead Resources

Publications

Unless otherwise specified, these publications can be ordered from the EPA National Safe Drinking Water Hotline listed below.

Lead and Your Drinking Water (booklet), U.S. EPA Office of Ground Water and Drinking Water, EPA 810/F-93-001, April 1987.

Lead Contamination Control Act (P.L. 100-572) (Federal statute) and supporting documents available through House Document Room, House of Representatives, Washington, DC 20515 (202) 225-3456.

Lead Contamination Control Act (LCCA) (pamphlet), U.S. EPA Office of Ground Water and Drinking Water, EPA 570/9-89-AAA, August 1989.

Lead in Drinking Water in Schools and Non-Residential Buildings (manual), US EPA Office Of Ground Water and Drinking Water, EPA 812-B-94-002, April 1994.

Sampling for Lead in Drinking Water in Nursery Schools and Day Care Facilities (booklet), US EPA Office of Ground Water and Drinking Water 812-B-94-003, April 1994.

The Lead Ban: Preventing the Use of Lead in Public Water Systems and Plumbing Used for Drinking Water (pamphlet on the Federal lead ban), U.S. EPA Office of Ground Water and Drinking Water, EPA 570/9-89-BBB, August 1989.

Federal Register **Notices on Water Coolers:**

(1) April 10, 1989, Part II, 54 *FR* 14316
Explanation of the LCCA and availability of guidance document.

(2) April 10, 1989, Part III, 54 *FR* 14320
Proposed list of water coolers that are not lead-free.

(3) January 18, 1990, Part III, 55 *FR* 1772
Final and proposed list of water coolers that are not lead-free.

(4) June 1, 1990, 55 *FR* 22387
Notice of Halsey Taylor consent order agreement.

EPA National Safe Drinking Water Hotline

(800) 426-4791.

Hotline operates Monday through Friday, 9:00 am to 5:30 pm (EST), except Federal holidays.

Appendix E— Sample Recordkeeping Form

Record of Sampling

Name of Building

Name of Sample Collector

Contact Person for this Record

Sample ID Number

(circle sample type) Service Connection Initial 1st Follow-up 2nd Follow-up

Length of Flush

Type of Outlet

Mfg/Model

Serial #

Date of Installation / /

Location

Date of Collection / /

Time of Collection am pm

Name of Laboratory Used

Lead Concentration (ppb)

NOTES:

Appendix F—Preservation of Samples and Sample Containers

This appendix contains information pertaining to the preservation of samples and sample containers. If you plan to use a certified drinking water laboratory to conduct analyses of your samples, they should be aware of these requirements. In addition, they will provide you with actual samplers or sample containers and instructions. The sample containers will have been prepared prior to your receipt. The lab will also specify how to handle the sample containers and when to submit them after taking your samples.

Contamination of sample containers by dust, dirt or other impurities containing lead can produce inaccurate test results in an otherwise conscientious sampling program. Contamination of a water sample by the container may indicate higher lead levels than are actually present in the drinking water.

Another source of error that may affect the results of analyses is the adsorption of lead from the water onto the surface of the container, which will reduce the amount of lead in the water sample. In such instances, analytical results will indicate lower lead levels in the sample than actually are present.

In order to avoid analytical errors, pay particular attention to proper collection and handling of the sample before analysis. Preparation of sample containers is described in detail in an EPA manual entitled, *Methods for Chemical Analysis of Water and Wastes*. In brief, the sample container, whether borosilicate glass, polyethylene, polyproplyene or Teflon should be thoroughly washed with detergent and tap water, rinsed with 1:1 nitric acid and tap water, 1:1 hydrochloric acid and tap water, and finally deionized distilled water—in that order.

Make sure the containers are kept sealed between the time of their preparation and the collection of the sample. This will assure that no contaminants from the outside are introduced. In order to avoid the loss of lead from the sample through adsoprtion onto the sample container wall, the sample will need to be acidified with concentrated nitric acid to a pH of less than 2. If the nitric acid cannot be used at the time of the collection of the sample because of shipping restrictions, preserve the sample by icing and promptly ship it to the laboratory. Upon receipt, the laboratory will acidify the sample. The sample can be held up to 14 days prior to acidification without loss of lead through absorption.

For more detailed information, refer to the following EPA manuals:

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, revised edition, March 1983 (available from U.S. EPA, R&D Publications, 26 West Martin Luther King Blvd., Cincinnati, OH 45268).

Methods for the Determination of Metals in Environmental Samples, EPA/600/4-91/010, June 1991 (available from the National Technical Information Service, Pub. No. PB91-231498 (703) 487-4650).

Manual for the Certification of Laboratories Analyzing Drinking Water, EPA-570/9-90/008, April 1990 (available from the National Technical Information Service, (703) 487-4650).